Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Louisiana Generating, LLC
Louisiana Generating LLC - Big Cajun II Power Plant
New Roads, Pointe Coupee Parish, Louisiana
Agency Interest Number: 38867
Activity Number: PER20060002
Proposed Permit Number: 2260-00012-V1

I. APPLICANT

Company:
Louisiana Generating LLC - Big Cajun II Power Plant
112 Telly St.
New Roads, Louisiana 70760

Facility:
Louisiana Generating, LLC
9951 Cajun 2 Road (Hwy 981)
New Roads, Pointe Coupee Parish, Louisiana
Approximate UTM coordinates are 656.395 kilometers East, 3400.246 kilometers North, Zone 15.

II. FACILITY AND CURRENT PERMIT STATUS

Louisiana Generating, LLC (LaGen), a subsidiary of NRG Energy, Inc., operates the Big Cajun Power Plant near New Roads, Louisiana, in Pointe Coupee Parish. The Big Cajun II Power Plant, an existing power station, began operation after 1980. Big Cajun II Unit 4, LLC, also a subsidiary of NRG Energy, Inc., was granted approval to construct Boiler No. 4 in Permit No. 2260-00012-V0. This boiler will also be operated by LaGen when completed. The Louisiana Generating LLC - Big Cajun II Power Plant currently operates under Permit Nos. 2260-00012-V0 and 2260-00012-IV2, issued August 22, 2005.

This is a modification to the Part 70 operating permit for the facility and includes provisions for the acid rain permit 2260-00012-IV2 and the Clean Air Interstate Rule permit 2260-00012-IR0. This modification incorporates a case-by-case determination of Maximum Achievable Control Technology (MACT) for the new pulverized coal boiler No. 4 (EQT021) in accordance with Section 112(g) of the Clean Air Act. This modification also incorporates provisions from Prevention of Significant Deterioration permit, PSD-LA-677(M-1), issued December 15, 2008.

The following sources are part of the Big Cajun II Unit 4 modification and will be included in the new permits in addition to previously permitted sources.

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Permit No.	Unit or Source	
2260-00012-V1	EQT008	02-01 - Transfer Tower T-20
2260-00012-IV3	EQT010	04-01 - Transfer Tower T-22/ Crusher
	EQT011	05-01 – Emergency Unloading
	EQT021	15-01 – Boiler No. 4(2B4)
	EQT022	16-01 – Cooling Tower No. 3
	EQT023	17-01 – Unit 4 Ash Silo
	EQT027	2B1 – Boiler No. 1
	EQT028	2B2 – Boiler No. 2
	EQT029	2B3 – Boiler No. 3
	EQT030	BR1,2 – Unit 1 & Unit 2 Bunker Room
	EQT031	CT1 – Cooling Tower 1
	EQT032	CT2 – Cooling Tower 2
	EQT033	EBR3 – Unit 3 East Bunker Room
	EQT034	PC1 – Barge Unloading
	EQT035	S 3,4 – Lime Silo Operation
	EQT036	T1 – Transfer Tower T1
	EQT037	T1A – Barge Unloading Transfer
	EQT038	T2 – Transfer Tower T2
	EQT039	T3 – Transfer Tower T3
	EQT040	T4 – Transfer Tower T4/ Crusher
	EQT041	T8 – Transfer Tower T8
	EQT042	TNK1 – Fuel Oil Tank
	EQT043	TNK12 – Gasoline Tank
	EQT044	TNK2 – Fuel Oil Tank
	EQT045	TNK3 – Fuel Oil Tank
	EQT046	TNK6 – Turbine Lube Oil Tank
	EQT047	TNK7 – Turbine Lube Oil Tank
	EQT048	TNK8 – Turbine Lube Oil Tank
	EQT049	WBR3 – Unit 3 West Bunker Room
	EQT050	EG-1 – Emergency Generator #1
	EQT051	EG-2 – Emergency Generator #2
	EQT052	EF-1 – Emergency Firewater Pump #1
	EQT053	EF-2 – Emergency Firewater Pump #2
	EQT058	01-01 – Coal Railcar Unloading Building
	EQT060	06-01 – Transfer Tower T-23
	EQT061	EG-3 – Emergency Generator #3
	EQT062	01-06 – Stamler Reclaim System
	EQT063	02-06 – Luffing/Slewing Stacker Feed
	EQT064	03-06 – Luffing/Slewing Stacker
	EQT065	04-06 – Portal Reclaimer
	EQT066	05-06 – Limestone Rail Car Unloading
	EQT067	06-06 - Emergency Limestone Truck Unloading
	EQT068	07-06 - Emergency Limestone Reclaim
	EQT069	08-06 – Limestone Transfer Tower
	EQT070	09-06 – Limestone Stackout
	EQT071	10-06 – Limestone Reclaim
	EQT072	11-06 – Limestone Day Silos
	EQT073	12-06 – Gypsum Dewatering Building
	EQT074	13-06 – Gypsum Transfer Tower
	EQT075	14-06 – Gypsum Radial Stacker Feed
	EQT076	15-06 – Gypsum Transfer to Storage Piles
	EQT077	16-06 – Gypsum Truck Loading
	EQT078	17-06 – Activated Carbon Silo Bin Vent

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Permit No.	Unit or Source	
2260-00012-V1	EQT079	18-06 – Sorbent Silo Bin Vent
2260-00012-IV3	EQT080	19-06 – Unit 4 Fly Ash Truck Loading
	EQT081	20-06 – Unit 4 Bottom Ash Truck Loading
	EQT082	TNK-72 – Ammonia Bulk Tank
	EQT083	TNK-73 – Ammonia Bulk Tank
	EQT084	TNK-74 – Ammonia Bulk Tank
	EQT085	TNK-75 – Ammonia Bulk Tank
	FUG002	FUG 2 – Coal Piles
	FUG003	FUG 1 – Coal Handling Conveyors (16 sources)
	FUG004	FUG 3 – Fly Ash Pond
	FUG005	FUG 5 – Road Emissions
	FUG006	S 1,2 – Fly Ash Handling Emissions
	FUG008	FUG 10 – Gypsum Pile & Loading Fugitive Emissions
	FUG009	FUG 11 – Gypsum Conveyors
	FUG010	FUG 6 – New Coal Conveyors
	FUG011	FUG 7 – Limestone Conveyors
	FUG012	FUG 8 – Limestone Pile Fugitive Emissions
	FUG013	FUG 9 – Limestone Emergency Unloading Fugitive Emissions

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire were submitted by Louisiana Generating, LLC on April 28, 2006, requesting a Part 70 operating permit modification. Additional information dated June 28, July 13, July 21, August 28, September 12, September 22, September 28, October 2, October 6, October 23, November 8, November 29, 2006, June 20, 2007, January 16, December 18, 2008, February 25, and April 24, 2009, was also received.

Project

The Big Cajun II Power Plant is currently comprised of three 575 megawatt (MW) pulverized coal (PC) boilers. Each boiler is fired by low-sulfur, Powder River Basin (PRB) subbituminous coal. These boilers are owned and operated by LaGen and began operation in the early 1980's. Boilers 1 through 3 are each rated at 6,420 MM BTU/hr and can potentially fire 3,440,548 tons of coal per year each. Boiler No. 4, or the Unit 4 PC boiler, is a proposed nominal 705 MW pulverized coal boiler.

The Unit 4 PC boiler had been designed to operate with low sulfur subbituminous coal from the Powder River Basin. In response to both facility reliability and economic considerations of future fuel availability, Big Cajun II Unit 4, LLC, has amended the plan for the Big Cajun II Unit 4 Project to include a second fuel supply: high-sulfur bituminous coal.

Based on the design firing rate of the Unit 4 PC boiler (6,566 MMBtu/hr), and the worst-case heating value of PRB coal (8,000 Btu/lb) and high-sulfur bituminous coal (10,641 Btu/lb), the Unit 4 PC boiler can potentially fire 3,595,000 tons/yr of PRB coal or 2,703,000 tons/yr of bituminous coal. Therefore, the potential coal usage rate for the entire Big Cajun II Power Plant will be approximately 13,916,644 tons per year following the start-up of Unit 4. Big Cajun II's boilers are also permitted to burn diesel for startup purposes.

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Description of Unit 4 Power Cycle and Combustion Operations

From the power generation cycle perspective, the following is a simplified description of the principles of operation of a PC power plant. Coal is reduced to a fine powder, mixed with an appropriate amount of air, and combusted in a steam generator. The steam generator is often referred to as the boiler. The energy produced during the combustion process heats water which circulates in the steam generator tubes and converts the water to steam. The steam is heated further and transported from the steam generator to the steam turbine, where, as it passes through a series of fixed and rotating vanes, the steam causes the turbine to rotate at a controlled speed. The rotating turbine provides the mechanical motive energy to the directly coupled generator, which converts the mechanical energy into electrical energy.

In the condenser, the turbine exhaust steam is condensed back into water as heat is indirectly transferred from the steam to cooling water that is circulated through the condenser tubes. The steam condensate exits the condenser and is returned back to the boiler and the steam cycle repeats. The heated cooling water leaving the condenser is transported to a cooling tower, which rejects the heat to the atmosphere through latent and sensible heat exchange caused by bringing the water into direct contact with air. The cooled cooling water is collected in a basin at the bottom of the tower, where the circulating water pumps provide motive force to transport the water through the condenser and back to the tower as the cooling water cycle repeats.

From an air pollution control perspective, the major source of air pollutants is the flue gas from the PC boiler. A description of the Unit 4 flue gas treatment for air pollution control purposes is presented as follows.

Flue gas from the Unit 4 PC boiler will first be routed through a selective catalytic reduction (SCR) unit where, with the addition of ammonia and the presence of a catalyst, a large portion of NO_X from the combustion process will be converted to nitrogen and water. In addition to SCR, the steam generator will be equipped with low-NO_X burners (LNB) to reduce NO_X formation in the combustion process. Because SCR requires a fairly high temperature to operate effectively, the SCR unit will be installed in the back pass of the boiler upstream of the air heater. Ammonia slip, or excess unreacted ammonia, will be limited to 2 ppmv in the flue gas that exits the stack.

The hot flue gases next pass through an air preheater, where the flue gas indirectly heats combustion air that is headed either directly to the PC boiler or to the coal pulverizers to pneumatically transport the pulverized coal to the PC boiler. Atmospheric air is supplied to the air preheater by the forced draft fans.

A sorbent injection system will be used to control mercury emissions which result from combustion of the fuel. A material that will absorb mercury, potentially activated carbon, will be injected into the flue gas stream. This material will absorb mercury in the gas stream. In a similar fashion, a second sorbent will be injected into the gas stream in order to reduce the concentration of sulfur trioxide (SO_3), a precursor to sulfuric acid mist. This will be added both to control sulfuric acid mist emissions and as a protection for the baghouse bags to prevent corrosion and extend bag life. The flue gases are then routed to the next control device: the baghouse. The ash, sorbents, and other particulate matter suspended in the flue gas stream will be collected in baghouse fabric filter modules. In the baghouse, particulate matter collects on the filter bags as the gas passes through. The

collected PM forms a cake in the bags, which enhances the filter efficiency. Periodically, the bags are cleaned by reverse air deflation, shaking, or air pulsing. The particulate matter cleaned from the bags falls into hoppers below the filter bags.

A Wet Flue Gas Desulfurization (Wet FGD) system will be installed after the baghouse to remove SO_2 from the flue gases. In a Wet FGD, the flue gas enters a large vessel (spray tower or absorber), where it is sprayed with water slurry containing approximately 15 to 20 percent limestone. The calcium in the slurry reacts with the SO_2 to form calcium sulfite ($CaSO_3$) or calcium sulfate ($CaSO_4$). Compressed air is injected into the slurry to oxidize calcium sulfite to calcium sulfate or gypsum ($CaSO_4 \cdot 2H_2O$). A portion of the slurry from the reaction tank is pumped to a set of hydrocyclones to concentrate the slurry from 15 to 20 percent to approximately 50 percent solids. The hydrocyclone underflow with 50 percent solids is further dewatered in a belt filter to a gypsum product with 10 to 15 percent moisture. Hydrocyclone overflow with fine gypsum crystals and unreacted limestone is returned to the absorber for further reaction. Gypsum product from belt filter discharge is by belt conveyors to gypsum storage for sale or disposal.

By controlling the gypsum quality in the dewatering step, wallboard-grade gypsum can be produced. Almost all Wet FGD systems in the United States in recent years use limestone with forced oxidation to produce commercial grade or disposal grade gypsum depending on local market for gypsum.

Following the FGD system, the flue gases are routed to the main stack. The stack will be equipped with Continuous Emissions Monitoring Systems (CEMS).

Material Handling

Coal Processing Operations

Big Cajun II currently receives all coal through a barge unloading facility. To allow the diversification of the coal supply to the facility, the Unit 4 project includes a new rail spur, a potential new coal unloading facility for railcars, and new coal conveyors and ancillary facilities needed to convey coal from the rail car unloading facility to the new coal storage piles. For maximum operational flexibility, Big Cajun II is seeking to permit the entire potential annual coal usage such that the entire throughput could occur through either the barge unloading operation or the railcar unloading operation. The existing barge unloading system and associated conveyors, which feed the existing coal piles, are currently sized and permitted to handle the additional throughput of the Unit 4 project. The Big Cajun II Power Plant currently has two existing coal piles – an east pile and a west pile.

Coal is received by barge on the Mississippi River and transferred, via bucket elevator, to Conveyor BC1. From here, the fuel is routed through Transfer Towers T1, T2, and T3 on conveyors BC2 and BC3. From Transfer Tower T3 the fuel is then diverted to the appropriate systems. Coal bound for the east storage pile is diverted onto Conveyor BC4 for transport to the pile. Coal bound for the west pile is diverted onto Conveyor BC4 for transport to the pile or is transferred onto Conveyor BC13 to Transfer Tower T8 and then diverted onto Conveyor BC16 and deposited onto the west coal pile. Reclaim activities differ depending from which pile the coal is being reclaimed. From the east or west pile, coal is transferred via Conveyor BC4A/B to Transfer Tower T4. Alternatively, from the west coal pile, material may be transferred onto Conveyor BC15 to Transfer Tower T8 and then on Conveyor BC14 to Transfer Tower T4. Once the coal is in Transfer Tower T4, it is crushed and moved via Conveyor BC5A/B to the tripper deck for Units 1 and 2.

Material can be diverted within the Units 1 and 2 tripper deck to Unit 3 via a totally enclosed conveyor.

In order to transport coal to the new storage piles from the barge, several new conveyors will be added. A new conveyor (BC28) will move coal from the existing Transfer Tower T8 to Transfer Tower T20. From T20, coal can follow several process paths. In order to be deposited on the main storage piles, it is transferred onto Conveyor BC22 where it is then deposited into the appropriate storage pile.[1] If due to some emergency condition BC22 or the stacker system is not in operation, the coal can be diverted from T20 to an emergency storage pile via conveyor BC21. From Conveyor BC21, it will be transferred onto the emergency storage pile through a telescoping chute to control emissions. As this is an emergency pile, Big Cajun II Unit 4, LLC, does not intend to utilize this system on a regular basis.

In addition, in order to control particulate matter emissions from some of the existing transfer points, LaGen will install some additional controls. On the existing transfer points T1, T1A, T2, and T3, LaGen is planning to install "spoon chutes." These devices act as paths for the fuel to follow and do not allow the fuel to be in free fall. This has the effect of greatly reducing the particulate matter emissions, and the manufacturer estimates that the emissions can be reduced by 98.5 percent. In addition, the baghouse that was previously in use at the barge unloading operations will be re-activated. This will capture and control the vast majority of particulate matter emissions from the unloading operations. It is estimated that the new baghouse will reduce particulate matter emissions by at least 90 percent.

For rail delivery of coal the following methodology will be used to transport coal to the new storage piles. Railcars containing coal will be positioned within a building, and the car will be rotated to dump the coal into receiving hoppers. From the receiving hoppers, the coal will be transported via Conveyor BC20 to Transfer Tower T20. From T20, the coal will be diverted, as described above, to the appropriate storage pile or to the emergency pile.

For reclaim operations, three different independent systems are planned. For all normal operations, the coal in the appropriate storage pile (bituminous or subbituminous) will be reclaimed via a portal reclaimer. A portal reclaimer is a system by which the coal is slowly pulled off of the storage pile via a "scooping" type of system and deposited onto Conveyor BC29 for transport to Transfer Tower T20. If for some reason the portal reclaimer or BC29 are experiencing a malfunction, coal can be reclaimed from the piles via an emergency reclaim system. The appropriate coal will be directed to a Stamler reclaim feeder by a bulldozer. The Stamler feeder will deposit the coal via Conveyors BC32 A/B onto Conveyor BC31 which will transfer the coal to T20. If the coal was diverted to the emergency storage pile, it can be transferred into a hopper which deposits the coal onto Conveyor BC24. Conveyor BC24 will move the coal to the Unit 4 crusher tower, T22.

Any coal that is reclaimed into Transfer Tower T20 is then transferred via Conveyor BC23 to the Unit 4 Crusher Tower T22. Here, the coal is fed to surge bins and to one of

[1] As Big Cajun II Unit 4 will have the ability to burn either PRB or eastern bituminous coal, the fuel must be kept in separate piles. The new stacker/reclaim system that is being developed and permitted for this project will have the ability to deposit the fuel in the appropriate pile. In addition, both types of coal will have an active and a reserve pile. Currently planning is for limited use of the reserve storage piles.

two crushers to break the coal down into smaller pieces. The coal is then deposited onto Conveyor BC26A/B and transported to the Unit 4 plant Transfer Tower T23. The coal is then transferred internally to pulverizers and silos where it is stored prior to being fed to the Unit 4 boiler.

From an air pollution control perspective, all Unit 4 coal conveyors will be covered to reduce the release of PM emissions. PM emissions from all Unit 4 transfer towers, including the primary coal crusher, will be captured and controlled by baghouse dust collectors. Wetting agents will be used on the coal piles and other locations, as necessary, to prevent the release of fugitive coal dust emissions. No air emissions are generated from coal pulverization because the coal from this operation is pneumatically conveyed directly to the PC boiler where combustion takes place.

Ash Processing Operations

Two types of ash will be generated by Unit 4: fly ash and bottom ash. Fly ash will be collected from the economizer outlet hopper, the air heater outlet hopper, and the main fabric filter hoppers. The fly ash system will be an enclosed pneumatic conveying system that takes the ash from the hoppers and conveys it to two collection silos. The fly ash collection silos are equipped with baghouses for PM control. Fly ash from the silo will either be directly sold as a product and hauled away by truck, or trucked to the on-site storage area.

Fly ash truck loading and transport operations are designed to minimize PM emissions. For ash that is intended for off-site consumption, all emissions from truck loading operations will be captured and routed to the baghouse dust collection system associated with the hopper that is being emptied. Big Cajun II operates a road wetting truck to minimize emissions from truck traffic within the plant. If the ash is shipped to the on-site storage area, it will be conditioned to achieve approximately 12 percent moisture content prior to loading it into trucks. This will greatly reduce the emissions from this operation and will minimize the unloading emissions at the on-site storage pond.

Bottom ash will be collected from the furnace bottom ash hopper. Bottom ash from the furnace is removed by a water sluice system that transports the bottom ash in an enclosed piping system to a truck loading area. The bottom ash has a consistency of wet sand, and is deposited directly into trucks for shipment to off-site consumers or to the bottom ash pond. Since the bottom ash is handled wet in an enclosed system, there is virtually no potential for air emissions from bottom ash processing operations.

Limestone Processing Operations

The limestone for the Wet FGD system will be supplied to the plant primarily by railcar. Limestone in railcars will be brought to an unloading system that is completely separate from the coal railcar unloading system. The limestone will be removed from the railcars via a bottom dump into a receiving hopper. Emissions arising from the unloading operations will be controlled through the use of a water suppression system. From the hopper, the material is fed onto a primary conveyor (Conveyor BC34) that transports it to the Limestone Transfer Tower, where emissions are controlled by controlled flow chutes and a dry fogging system. The limestone then moves on Conveyor BC35 to a telescoping chute where it is deposited on the limestone storage pile. The pile is watered as needed to control fugitive emissions.

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Limestone is reclaimed as needed in one of two Stamler feeders and conveyed via BC36 to limestone day bins. The transfer of the material from the conveyor into the day bins is controlled by a dust collector as the bins are located within the reagent preparation building. Within the building, limestone is crushed in a wet ball mill and mixed into a slurry in preparation for its delivery to the Wet FGD system. There are no emissions from the crushing or slurry system as it is entirely self contained and done in a wet environment.

In case of emergencies, a backup system whereby limestone can be delivered to the facility via trucks is also planned. Limestone would be brought onsite by trucks and deposited in an area near the limestone railcar unloading system. From here, bulldozers will move the limestone as needed to a Stamler feeder reclaim where the limestone will be transferred to Conveyor BC34 and then through the rest of the limestone system as described above.

Gypsum Processing Operations

Gypsum is produced in the Wet FGD system as a by-product of the SO_2 removal from the flue gas stream. The gypsum has a high moisture content (10-11 percent) and is transferred to the gypsum dewatering building where excess water is removed from the material and recycled into the Wet FGD system. The gypsum still has a high moisture content and is moved via conveyor to outdoor storage piles. The material is loaded onto trucks, as needed for transport to off-site customers or to the on-site landfill. In the event of a problem with the gypsum stack-out system, the gypsum can be kept inside of the dewatering building and removed via truck in that manner.

There are few emissions associated with the gypsum system. The material has high moisture content, and therefore has few particulate matter emissions. The conveyor transfer points have been identified in order to provide potential emission sources. However, due to the high material moisture content, emissions from these sources should be insignificant.

Sorbent Operations

For Big Cajun II's Unit 4, two sorbent injections systems are proposed. In order to reduce mercury from the flue gas stream, a dry sorbent, potentially powdered activated carbon (PAC), will be injected into the gas stream. PAC is a fine powdery substance and is a potential particulate matter emission source. Big Cajun II will utilize PAC as a sorbent injection to control mercury emissions. The material is trucked on-site and transferred into a silo using a pneumatic system. Emissions would be controlled through the use of a high efficiency filtration system, which would reduce emissions by at least 99 percent.

An alternative means of maintaining mercury control other than PAC may be substituted with the prior approval of the Louisiana Department of Environmental Quality. The alternative must control mercury to the limits set through the case-by-case MACT analysis.

A second sorbent system will be utilized to reduce sulfuric acid mist in the gas stream prior to the baghouse. The second sorbent system does not actively control the outlet sulfuric acid mist emission rate as much as to reduce bag corrosion and extend bag life. A dry alkaline sorbent will be injected into the gas stream. This sorbent will be a fine

powdery substance and is a potential particulate matter emission source. The material for the dry alkaline sorbent system would be trucked on-site and transferred into a silo using a pneumatic system. Emissions would be controlled through the use of a high efficiency filtration system, which would reduce emissions by at least 99 percent.

Cooling Tower

Unit 4 includes a cycle heat rejection system that uses a condenser and a dedicated new conventional counter flow mechanical draft wet cooling tower. Steam from the steam turbine exhaust is condensed by indirect cooling from circulating cooling water. The circulating water is then cooled by the cooling tower. The warm circulating cooling water from the steam condenser flows downward through the cooling tower in counter flow to an upward current of air induced by the cooling tower fans. The cooled water is collected in a basin at the bottom of the cooling tower. This basin is the supply point for the closed loop circulating water system. Circulating water is pumped from the cooling tower basin through the steam condenser and back to the water distribution system at the top of the cooling tower. The water is cooled by evaporation and sensible heat transfer as it flows down through the cooling tower.

Emissions of PM can be realized from cooling tower operations when drift (small water droplets) escape the cooling tower. As the cooling tower drift evaporates, any Total Dissolved Solids (TDS) in the drift will become PM emissions. As discussed in Part 4, Best Available Control Technology (BACT), PM emissions from the cooling tower are minimized by using a mechanical drift eliminator that keeps drift to 0.002 percent of the circulating water rate. The TDS level in the circulating cooling water is kept to approximately 1,200 ppmw by maintaining a cooling water blowdown discharge which will be utilized as makeup to the Wet FGD or sent to the Big Cajun II LPDES wastewater treatment system. Makeup water to the cooling tower is obtained from the Mississippi River.

Big Cajun II Unit 4 Project

Under the provisions of Permit Nos. 2260-00012-V0 and PSD-LA-677, the Unit 4 PC boiler had been designed to operate with low sulfur subbituminous coal from the Powder River Basin (PRB). In response to both facility reliability and economic considerations of future fuel availability, Big Cajun II has amended the plan for the Big Cajun II Unit 4 Project to include a second fuel supply: high-sulfur bituminous coal. The Big Cajun II Unit 4 Project design, including the air pollution control technologies, is being revised to utilize both fuels separately and blended. The vast majority of air pollution control equipment will remain as specified in PSD-LA-677. However, because of the inherent differences in the two coals, modifications to BACT and the Part 70 permit are required. The Unit 4 PC boiler will be supported by other new emission sources for material handling and transfer of fuel and limestone including barge unloading operations, conveyors, storage piles, and mobile heavy equipment operation over paved and unpaved roads.

PSD-LA-677(M-1), issued December 15, 2008, authorized the use of two coals that have both common and uncommon pollution parameters in the Big Cajun II Unit 4 project. The PRB or low-sulfur subbituminous coals have a modest heat content but low sulfur and ash contents. The high-sulfur coal, although similar in some respects to the low-sulfur coal, has a significantly higher heat content, which partially compensates for higher sulfur and ash contents.

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Comparison of Emission Potential Low-Sulfur vs. High-Sulfur Coal

Emission Precursor Coal Element	Low-Sulfur Coal (PRB)		High-Sulfur Coal (Illinois)	
	Percent	Lb Element/ MM BTU	Percent	Lb Element/ MM BTU
Ash	8.50	10.63	10.2	9.27
Sulfur	0.50	0.625	3.50	3.18
Heat Content	8,000 BTU/lb (As Received)	-	11,004 BTU/lb (As Received)	-

The inclusion of high sulfur coals in the fuel mix for Big Cajun II Unit 4 had a significant effect on the emissions for which BACT had to be demonstrated. The high-sulfur coal was the critical fuel for BACT selection and design of the PM/PM_{10}, SO_2, and Sulfuric acid mist (H_2SO_4 mist), control systems. For these pollutants, a revised BACT demonstration was required.

Other pollutant emissions, including NO_X, CO, Beryllium, and Mercury, should not change significantly as a result of the coal characteristics. For these pollutants, with the exception of mercury, the low-sulfur coal remained the critical fuel for BACT selection and design. For VOC, updated design information indicated that the permitted BACT technology, Combustion Control, was capable of maintaining VOC emissions less than 0.0034 lb/MMBtu rather than the originally permitted 0.015 lb/MMBtu.

Lead and fluorine concentrations in coal can vary significantly, even within the same supply region. Big Cajun II Unit 4, LLC reviewed fluorine concentration data from coals in Wyoming (the primary supply region for PRB coal) and the Illinois Basin (primary supply region for high-sulfur bituminous coal) that are provided by the United States Geological Service (USGS). These data indicated a range of fluorine concentrations from 14 to 4,000 ppmw for Wyoming coals and from 13 to 700 ppmw for Illinois Basin coals. Although this reflects wide uncertainty, it is possible that the high-sulfur bituminous coal will be design critical for fluorine.

Estimated emissions increases due to the project in tons per year (TPY) are as follows:

Pollutant	Emission Rate Increase (TPY)	PSD de Minimus (TPY)	Review Required
PM/PM_{10} (filterable)	401.3 *	25/15	Yes
SO_2	2,876	40	Yes
NO_X	2,013	40	Yes
CO	3,883	100	Yes
VOC	97.8	40	Yes
H_2SO_4 mist	215.7	7	Yes
Lead	0.18 *	0.6	No
Fluorides	12.65 *	3.0	Yes

* Estimated emissions increases have been reduced after determination of Case-by-Case MACT.

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A comparison of the controlled potential to emit and the respective PSD significance levels for PM/PM_{10}, SO_2, NO_X, CO, VOC, H_2SO_4 mist, and fluoride emissions, associated with the Big Cajun II Unit 4 Project, indicated that all but lead were greater than their PSD significance levels and were subject to BACT review.

The BACT limits for emissions of PM/PM_{10}, SO_2, NO_X, CO, H_2SO_4 mist, and fluoride are listed in the MAXIMUM ALLOWABLE EMISSIONS RATES table of this Statement of Basis. A more thorough discussion of the BACT selection process can be found in PSD-LA-677(M-1).

Big Cajun II is also subject to the provisions of the Acid Rain Program under 40 CFR Part 72 and LAC 33:III.505.

Startup/Shutdown emissions for the Big Cajun II Power Plant have been included into this permit modification for the boilers. In order to minimize air emissions during start-up operations, the permittee shall fire distillate fuel oil during start-up to raise the temperature within the combustion chamber of the PC steam generator to a point where the emissions from the combustion of the solid fuel source can be controlled shortly after its introduction by the inherent features of the PC technology and the add-on controls for the boiler. The maximum lb/hr rate provided in the permit for the three existing boilers, EQT027, 2B1 - Boiler No. 1, EQT028, 2B2 – Boiler No. 2, and EQT029, 2B3 – Boiler No. 3, included startup/shutdown operations.

Emissions from normal and start-up/shut-down operations for 15-01 – Boiler No. 4(2B4) are displayed as scenarios in the Part 70 permit modification and PSD permit. Under EQT021, 15-01 – Boiler No. 4(2B4), only the annual emissions are displayed in the sections "Emission Rates for Criteria Pollutants" and "Emission Rates for TAP/HAP & Other Pollutants." The emissions listed under EQT021 represent the maximum potential-to-emit (PTE) in tons per year at EQT021, 15-01 - Boiler No. 4(2B4), including emissions from both normal operations and also start-up/shut-down operations over 8,760 hours per year. The permittee can select which of the three scenarios to operate under without exceeding the maximum PTE.

Scenario 1 provides the Maximum (lb/hr) emissions for startup/shutdown operations occurring under a 'cold' startup. A cold startup is defined as when the turbine metal temperature in the first stage has dropped to less than 300 degrees F. A cold startup requires an extended period to warm and evenly heat the turbine when starting up and build pressure slowly to avoid damaging the machine (referred to as Prewarm). Scenario 2 provides the Maximum (lb/hr) emissions for startup/shutdown operations occurring under a 'hot' startup. A hot start up is defined as the turbine metal temperature in the first stage is greater than 300 degrees F. Hot startup requires no Prewarm. Big Cajun II must monitor and maintain the water quality in the boiler, which must be within certain limits as pressure is increased. This is to prevent carryover of potential contaminants in the steam to the turbine. Scenario 3 provides the Average (lb/hr), Maximum (lb/hr), and Annual (TPY) emissions for EQT021, 15-01 – Boiler No. 4(2B4), occurring under normal operations of the boiler over 8,760 hours per year. Start-up/shut-down emissions are not included in Scenario 3.

Existing sources at the Big Cajun II Unit 4 Power plant which remain unchanged by the modification include Boilers No. 1, No. 2, and No. 3; Unit 1 & Unit 2 Bunker Room; Unit 3

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East and West Bunker Room; and Fly Ash Handling Emissions. Operations at Cooling Towers No. 1 and No. 2 also remain unchanged. Other existing sources at the power plant have been modified, redesignated, or removed from the proposal.

Proposed Permits

Permit 2260-00012-V1, is a major modification to 2260-00012-V0 and incorporates the initial CAIR Permit No. 2260-00012-IR0, the renewal to the Acid Rain Permit No. 2260-00012-IV3, and PSD-LA-677(M-1) which was issued December 15, 2008.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	9,099.5	8,638.42	- 461.02
SO_2	101,179.2	101,183.03	+ 3.83
NO_X	19,730.4	19,751.59	+ 21.19
CO	50,815.8	50,820.57	+ 4.77
VOC *	740.8	407.96	- 332.84

* VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Acetaldehyde	-	1.02	+ 1.02
Acrolein	-	0.520	+ 0.520
Benzene	9.0	8.94	- 0.06
Biphenyl	-	< 0.01	+ < 0.01
Carbon Disulfide	-	0.23	+ 0.23
Chlorobenzene	-	0.039	+ 0.039
Chloroethane	-	0.08	+ 0.08
Chloroform	-	0.11	+ 0.11
Cumene	-	0.01	+ 0.01
1,2-Dibromoethane	-	0.002	+ 0.002
1,2-Dichloroethane	-	0.072	+ 0.072
Ethyl benzene	-	0.17	+ 0.17
Formaldehyde	1.7	1.822	+ 0.122
Methyl chloride	-	0.95	+ 0.95
Methyl ethyl ketone	-	0.70	+ 0.70
n-Hexane	-	0.12	+ 0.12
Naphthalene	-	0.02	+ 0.02
Phenol	-	0.03	+ 0.03
Polynuclear Aromatic Hydrocarbons	-	0.087	+ 0.087
Propionaldehyde	-	0.68	+ 0.68
Styrene	-	0.05	+ 0.05
1,1,2,2-Tetrachloroethane	-	0.08	+ 0.08
Toluene	-	0.43	+ 0.43
Vinyl Acetate	-	0.01	+ 0.01
Xylene (mixed isomers)	-	0.07	+ 0.07
Total	10.7	16.24	

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* Other VOC (TPY):	391.72

Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Ammonia	50.0	53.64	+ 3.64
Antimony (and compounds)	0.02	0.028	+ 0.008
Arsenic (and compounds)	0.23	0.454	+ 0.224
Barium (and compounds)	32.1	33.010	+ 0.91
Beryllium (Table 51.1)	0.03	0.051	+ 0.021
Cadmium (and compounds)	0.01	0.028	+ 0.018
Chlorine	1.5	0.15	- 1.35
Chromium VI (and compounds)	0.46	0.670	+ 0.21
Copper (and compounds)	1.1	1.108	+ 0.008
Dichloromethane	-	0.52	+ 0.52
Hydrazine	-	< 0.001	+ < 0.001
Hydrochloric Acid	1,180.0	1,259.40	+ 79.40
Hydrofluoric Acid	226.4	238.25	+ 11.85
Hydrogen Cyanide	-	4.49	+ 4.49
Manganese (and compounds)	2.3	2.97	+ 0.67
Mercury (and compounds)	0.69	0.669	- 0.021
Nickel (and compounds)	0.46	2.063	+ 1.603
Selenium (and compounds)	0.12	1.102	+ 0.982
Sulfuric Acid	38.7	254.40	+ 215.7
1,1,1-Trichloroethane	-	0.04	+ 0.04
Zinc (and compounds)	1.0	1.52	+ 0.52
Total	1,535.12	1,854.563	

LAC 33:III Chapter 51 Supplemental Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Acetophenone	-	0.03	+ 0.03
Benzyl Chloride	-	1.26	+ 1.26
Bromoform	-	0.07	+ 0.07
Cobalt compounds	0.23	0.33	+ 0.10
Dimethyl sulfate	-	0.09	+ 0.09
2,4-Dinitrophenol	-	< 0.01	+ < 0.01
Isophorone	-	1.04	+ 1.04
Lead compounds	0.23	0.39	+ 0.16
Methyl Bromide	-	0.29	+ 0.29
Methyl Tertiary Butyl Ether	-	0.06	+ 0.06
Total	0.46	3.57	

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

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Table 1: Applicability and/or Exemptions of Selected Subject Items

ID No:	Requirement	Notes
EQT008	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.
EQT010	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.
EQT011	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.
EQT021	Emission Monitoring Requirements [LAC 33:III.915.D]	EXEMPT. The boiler is exempt because it is subject to a New Source Performance Standard (NSPS).
	Control of Emissions of Nitrogen Oxides (NO_X) [LAC 33:III.2201.C.15]	EXEMPT. The boiler is required to meet more stringent BACT NO_X emission limits.
	Comprehensive Toxic Air Pollutant Emission Control Program [LAC 33:III.5105.B.2]	EXEMPT. Electric utility steam-generating units are exempt from the requirements of LAC 33:III Chapter 51 Subchapter A.
EQT022, EQT031, EQT032	Emission Standards for Particulate Matter [LAC 33:III.1311.F]	DOES NOT APPLY. Emissions from cooling towers are due to uncombined water and the limits of LAC 33:III Chapter 13 are not applicable.
	NESHAP – Subpart Q – National Emission Standards for Hazardous Air Pollutants for Industrial Cooling Towers [40 CFR 63.400(a)]	DOES NOT APPLY. The Big Cajun Unit II Power Plant does not use chromium based water treatment chemicals in the cooling water or cooling towers.
	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Pre-controlled emissions from the cooling towers are less than 100 TPY per pollutant.
EQT023	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.

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ID No:	Requirement	Notes
EQT027, EQT028, EQT029	Emission Monitoring Requirements [LAC 33:III.915.D]	EXEMPT. The boilers are exempt because they are subject to a New Source Performance Standard (NSPS).
	Comprehensive Toxic Air Pollutant Emission Control Program [LAC 33:III.5105.B.2]	EXEMPT. Electric utility steam-generating units are exempt from the requirements of LAC 33:III Chapter 51 Subchapter A.
	Compliance Assurance Monitoring [40 CFR 64.2(b)(1)(iii)]	EXEMPT. Boilers are subject to the more stringent Acid Rain requirements of 40 CFR 75 for NO_X emissions.
EQT030, EQT033, EQT034, EQT035, EQT049, EQT058	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.
EQT036, EQT037, EQT038, EQT039, EQT040, EQT041, EQT060	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.
EQT042, EQT044	Storage of Volatile Organic Compounds [LAC 33:III.2103.A]	DOES NOT APPLY. Tanks do not store a volatile organic compound with a vapor pressure of 1.5 psia or greater.
	NSPS – Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 [40 CFR 60.111(b)]	DOES NOT APPLY. Fuel oil No. 2 does not meet the definition of petroleum liquids.
EQT043	NSPS – Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 [40 CFR 60.110b(a)]	DOES NOT APPLY. The capacity of the tank is less than 40 m^3 (10,500 gallons).
EQT045, EQT046, EQT047, EQT048	Storage of Volatile Organic Compounds [LAC 33:III.2103.A]	DOES NOT APPLY. Tanks do not store a volatile organic compound with a vapor pressure of 1.5 psia or greater.
	NSPS – Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 [40 CFR 60.110(a)]	DOES NOT APPLY. Each storage vessel has a capacity less than 40,000 gallons.

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ID No:	Requirement	Notes
EQT050, EQT051, EQT052, EQT053, EQT061	Emission Monitoring Requirements [LAC 33:III.915.A]	DOES NOT APPLY. Engines (pumps) are not source categories per Appendix P of 40 CFR Part 51.
	Emission Standard for Sulfur Dioxide [LAC 33:III.1502.A.3]	DOES NOT APPLY. Engines doe not emit more than 5 tons per year of SO_2 into the atmosphere.
	Control of Emissions of Nitrogen Oxides (NOX) [LAC 33:III.2201.C.14]	EXEMPT. Diesel-fired stationary internal combustion engines are exempt from the requirements of LAC 33:III.2201.
	NSPS – Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR 60.4200(a)]	EXEMPT. Diesel-fired stationary internal combustion engines were constructed in 1976 and 1978 prior to the applicability of NSPS Subpart IIII.
EQT082, EQT083, EQT084, EQT085, EQT087, EQT088, EQT089	Storage of Volatile Organic Compounds [LAC 33:III.2103.A]	DOES NOT APPLY. Tanks do not store volatile organic liquids.
	Comprehensive Toxic Air Pollutant Emission Control Program [LAC 33:III.5109.A]	EXEMPT. Ammonia is a Class III TAP and does not require MACT Analysis.
	NSPS – Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 [40 CFR 60.111b(k)]	DOES NOT APPLY. Tank contents do not meet the definition of volatile organic liquid (VOL).
EQT062, EQT063, EQT064, EQT065	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.
EQT066, EQT067, EQT068, EQT069, EQT070, EQT071, EQT072, EQT073, EQT074, EQT075, EQT076, EQT077, FUG008, FUG009, FUG011, FUG012, FUG013	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.

Table 1: Applicability and/or Exemptions of Selected Subject Items

ID No:	Requirement	Notes
EQT078, EQT079, EQT080, EQT081	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.
FUG002, FUG003, FUG004, FUG005, FUG006, FUG010	Compliance Assurance Monitoring [40 CFR 64.2(a)(3)]	DOES NOT APPLY. Source does not have potential pre-control device emissions of PM_{10}/HAP that is equal to or greater than 100% of the amount, in TPY, required for the source to be classified as a major source.

The above table provides explanation for both the exemption status or non-applicability of a source cited by 1, 2 or 3 in the matrix presented in Section X (Table 1) of this permit.

The permittee has completed the following regulations regarding initial compliance certification and/or testing for the following sources prior to the date cited in the regulation.

ID, Source - Description	Citation
GRP005, Plant Wide	Modify and/or install and bring into normal operation NO_X control equipment and/or NO_X monitoring systems in accordance with LAC 33:III.Chapter 22 as expeditiously as possible, but by no later than May 1, 2005, except as provided in LAC 33:III.2202. [LAC 33:III.2201.J.1]
	Complete all initial compliance testing, specified by LAC 33:III.2201.G, for equipment modified with NO_X reduction controls or a NO_X monitoring system to meet the provisions of LAC 33:III.Chapter 22 within 60 days of achieving normal production rate or after the end of the shake down period, but in no event later than 180 days after initial start-up, except as provided in LAC 33:III.2202. [LAC 33:III.2201.J.2]
	Complete required testing to demonstrate the performance of existing, unmodified equipment in a timely manner, but by no later than November 1, 2005, except as provided in LAC 33:III.2202. [LAC 33:III.2201.J.2]
EQT027, 2B1 – Boiler No. 1 EQT028, 2B2 – Boiler No. 2 EQT029, 2B3 – Boiler No. 3	Conduct the performance tests required in 40 CFR 60.8 using as reference methods and procedures the test methods in 40 CFR 60 Appendix A or other methods and procedures as specified in 40 CFR 60.46, except as provided in 40 CFR 60.8(b). Subpart D [40 CFR 60.46(a)]
	The Carbon Monoxide (CO) Continuous Emission Monitoring Systems (CEMS) shall be certified according to Performance Specification 4 of 40 CFR 60 Appendix B no later than November 1, 2005. [LAC 33:III.507.H.1]

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Prevention of Significant Deterioration (PSD) Review

Louisiana Generating, LLC (LaGen) proposed a major modification at the Big Cajun II Power Plant which triggered Prevention of Significant Deterioration analysis. Permit No. PSD-LA-677(M-1) was issued December 15, 2008 for the Big Cajun II Unit 4 project. The modification authorizes Big Cajun II to construct and operate the pulverized coal boiler, EQT021, 15-01 – Boiler No. 4(2B4), using both low-sulfur, Powder River Basin, sub-bituminous coal and high sulfur bituminous coal as fuel. The necessary material handling sources, including fuel delivery, fuel conveyance, ash handling, limestone handling, and gypsum handling facilities, will also be installed at the Big Cajun II Power Plant.

PSD-LA-677(M-1) also states that LaGen submit an application for a case-by-case MACT determination pursuant to §112(g)(2) of the Clean Air Act for EQT021, 15-01 – Boiler No. 4(2B4). This application for a case-by-case MACT determination shall follow the guidelines set forth in 40 CFR 63.40 through 63.44. Commencement of construction of EQT021 shall not occur until the MACT determination has been approved by LDEQ and Permit No. 2260-00012-V1 has been issued.

Permit No. PSD-LA-677(M-1) details the project and also presents a BACT analysis and an analysis of the source's impact on total air quality to ensure compliance with the National Ambient Air Quality Standards (NAAQS) and Ambient Air Standards for the affected equipment.

Estimated emission increases due to the project in tons per year are as follows:

Pollutant	Emission Rate Increase	PSD de Minimus	Review Required
PM/PM_{10} (filterable)	401.3 *	25/15	Yes
SO_2	2,876	40	Yes
NO_X	2,013	40	Yes
CO	3,883	100	Yes
VOC	97.8	40	Yes
H_2SO_4 mist	215.7	7	Yes
Lead	0.18 *	0.6	No
Fluorides	12.65 *	3.0	Yes

* Estimated emissions increases have been reduced after determination of Case-by-Case MACT.

A comparison of the controlled potential to emit and the respective PSD significance levels for PM/PM_{10}, SO_2, NO_X, CO, VOC, H_2SO_4 mist, and fluoride emissions, associated with the Big Cajun II Unit 4 Project, indicated that all but lead were greater than their PSD significance levels and were subject to BACT review. The BACT limits for emissions of PM/PM_{10}, SO_2, NO_X, CO, H_2SO_4 mist, and fluoride are listed in the MAXIMUM ALLOWABLE EMISSIONS RATES table of this Statement of Basis. A more thorough discussion of the BACT selection process can be found in PSD-LA-677(M-1).

Neither the proposal nor the general commercial, residential, industrial, or other growth associated with it is expected to have a significant adverse impact on soil, vegetation, visibility, or air quality in the area of the facility or any Class I area.

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The following table displays BACT limits established in PSD-LA-677(M-1), issued December 15, 2008.

MAXIMUM ALLOWABLE EMISSION RATES	
ID / Description	BACT Limits determined in PSD-LA-677(M-1)
01-01 – Coal Railcar Unloading Building (EQT058)	PM_{10}: 0.08 lb/hr, 0.09 TPY; Apply a dry fogging or equivalent dust suppression system
05-01 – Emergency Unloading (EQT011)	PM_{10}: 1.24 lb/hr; < 0.01 TPY; Use best management practices and periodic pile watering.
15-01 – Boiler No. 4(2B4) (EQT021)	PM/ PM_{10}: 0.015 lb/MM BTU (filterable); 98.5 lb/hr; 431.4 TPY; Use of a fabric filter. SO_2: 0.10 lb/MM BTU (30-day rolling average); 1,516.7 lb/hr; 2,875.9 TPY; Wet flue gas desulfurization. NO_X: 0.07 lb/MM BTU (30-day rolling average); 758.9 lb/hr; 2,013.1 TPY; Combination of low-NOX burners and selective catalytic reduction. CO: 0.135 lb/MM BTU (30-day rolling average); 1,772.8 lb/hr; 3,882.5 TPY; Combustion control. VOC: 0.0034 lb/MM BTU; 22.3 lb/hr; 97.80 TPY; Combustion control. Good work practices. H_2SO_4 Mist: 0.0075 lb/MM BTU; 49.2 lb/hr; 215.7 TPY; Wet flue gas desulfurization and sorbent injection upstream of the baghouse. Flourides: 0.00056 lb/MM BTU; 13.85 lb/hr; 60.66 TPY; Combined use of sorbent injection and wet flue gas desulfurization.
Scenario 1: 15-01 Cold SU – Boiler No. 4 Cold Startup/Shutdown (GRP008)	PM/ PM_{10}: 98.49 lb/hr; Use low ash fuels and good combustion practices. SO_2: 984.9 lb/hr; Use low sulfur fuel oil and activate the Wet FGD system once coal is added during startup. NO_X: 1,447.8 lb/hr; Use the combustion controls in place and best operation practices. Activate the SCR once the appropriate parameters are reached during startup. CO: 1,313.2 lb/hr; Use good combustion practices. VOC: 33.49 lb/hr; Use appropriate combustion control techniques.
Scenario 2: 15-01 Hot SU – Boiler No. 4 Hot Startup/Shutdown (GRP009)	PM/ PM_{10}: 83.0 lb/hr; Use low ash fuels and good combustion practices. SO_2: 829.8 lb/hr; Use low sulfur fuel oil and activate the Wet FGD system once coal is added during startup. NO_X: 1,130.2 lb/hr; Use the combustion controls in place and best operation practices. Activate the SCR once the appropriate parameters are reached during startup. CO: 1,106.4 lb/hr; Use good combustion practices. VOC: 21.4 lb/hr; Use appropriate combustion control techniques.
17-01 – Unit 4 Ash Silo (EQT023)	PM_{10}: 0.39 lb/hr; 1.70 TPY; Silos vent emissions to a filter system which reduces emissions by 99%. Sold ash to off-site customers is loaded into sealed trucks or covered trucks (wetted) and emissions are routed to filter system. Ash that is stored in the on-site landfill is first conditioned to approximately 12% moisture then transferred to trucks.
PC1 – Barge Unloading (EQT034)	PM_{10}: 1.24 lb/hr, 0.19 TPY; Use of a baghouse for unloading operations. Installation of the baghouse is conditional if the Unit 4 Project becomes operational.
T1 – Transfer Tower T1 (EQT036)	PM_{10}: 0.01 lb/hr; 0.01 TPY; Partial enclosure of transfer operations and use of spoon chutes. Installation of the spoon chutes is conditional if the Unit 4 Project becomes operational.
T1A – Barge Unloading Transfer (EQT037)	PM_{10}: 0.19 lb/hr, 0.03 TPY; Partial enclosure of the bucket elevator and use of spoon chutes. Installation of the spoon chutes is conditional if the Unit 4 Project becomes operational.

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MAXIMUM ALLOWABLE EMISSION RATES	
ID / Description	BACT Limits determined in PSD-LA-677(M-1)
T2 – Transfer Tower T2 (EQT038)	PM_{10}: 0.01 lb/hr, 0.01 TPY; Partial enclosure of transfer operations and use of spoon chutes. Installation of the spoon chutes is conditional if the Unit 4 Project becomes operational.
T3 – Transfer Tower T3 (EQT039)	PM_{10}: 0.01 lb/hr, 0.01 TPY; Partial enclosure of transfer operations and use of spoon chutes. Installation of the spoon chutes is conditional if the Unit 4 Project becomes operational.
01-06 – Stamler Reclaim System (EQT062)	PM_{10}: 2.98 lb/hr, 0.12 TPY; Point uses a telescoping chute to minimize emission.
02-06 – Luffing/Slewing Stacker Feed (EQT063)	PM_{10}: 6.20 lb/hr, 2.23 TPY; Outdoor storage piles are watered to control fugitive emissions; Use best management practices.
03-06 – Luffing/Slewing Stacker (EQT064)	PM_{10}: 6.20 lb/hr, 0.11 TPY
04-06 – Portal Reclaimer (EQT065)	PM_{10}: 5.95 lb/hr, 2.14 TPY; Outdoor storage piles are watered to control fugitive emissions.
05-06 – Limestone Rail Car Unloading (EQT066)	PM_{10}: 1.07 lb/hr, 0.03 TPY; Apply a dry fogging or equivalent dust suppression system on the receiving hoppers of the limestone unloading operations.
06-06 - Emergency Limestone Truck Unloading (EQT067)	PM_{10}: < 0.01 lb/hr, < 0.01 TPY; Use best management practices.
07-06 - Emergency Limestone Reclaim (EQT068)	PM_{10}: 1.79 lb/hr, 0.02 TPY; Partially enclose this point and use a dry fogging or equivalent dust suppression system
08-06 – Limestone Transfer Tower (EQT069)	PM_{10}: 0.12 lb/hr, 0.50 TPY; Use a total enclosure and dry fogging or equivalent dust suppression system.
09-06 – Limestone Stackout (EQT070)	PM_{10}: 0.12 lb/hr, 0.50 TPY; Equip point with a telescoping chute to minimize emissions.
10-06 – Limestone Reclaim (EQT071) .	PM_{10}: 0.02 lb/hr, 0.08 TPY
11-06 – Limestone Day Silos (EQT072)	PM_{10}: < 0.01 lb/hr, 0.02 TPY; Use a baghouse to control emissions.
12-06 – Gypsum Dewatering Building (EQT073)	PM_{10}: 0.27 lb/hr, 1.17 TPY; Use best management practices to control emissions.
13-06 – Gypsum Transfer Tower (EQT074)	PM_{10}: 0.13 lb/hr, 0.59 TPY; Use best management practices to control emissions.
14-06 – Gypsum Radial Stacker Feed (EQT075)	PM_{10}: 0.13 lb/hr, 0.59 TPY; Use best management practices to control emissions.
15-06 – Gypsum Transfer to Storage Piles (EQT076)	PM_{10}: 0.13 lb/hr, 0.59 TPY; Use best management practices to control emissions.
16-06 – Gypsum Truck Loading (EQT077)	PM_{10}: 0.16 lb/hr, 0.24 TPY; Use best management practices to control emissions.
17-06 – Activated Carbon Silo Bin Vent (EQT078)	PM_{10}: 0.12 lb/hr, 0.04 TPY; Control emissions through the use of a dust collector (baghouse or filter vent).
18-06 – Sorbent Silo Bin Vent (EQT079)	PM_{10}: 0.12 lb/hr, 0.04 TPY; Control emissions through the use of a dust collector (baghouse or filter vent)
19-06 – Unit 4 Fly Ash Truck Loading (EQT080)	PM_{10}: 0.08 lb/hr, 0.03 TPY
20-06 – Unit 4 Bottom Ash Truck Loading (EQT081)	PM_{10}: 0.01 lb/hr, 0.06 TPY
FUG 1 – Coal Handling Conveyors (16 sources) (FUG003)	PM_{10}: 17.21 lb/hr, 0.88 TPY; Cover the conveyors and condition, by water or chemical suppression, prior to movement.
FUG 2 – Coal Piles (FUG002)	PM_{10}: 903.00 lb/hr, 1.03 TPY; Apply a surfactant or water to the piles as needed to limit fugitive emissions.

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MAXIMUM ALLOWABLE EMISSION RATES	
ID / Description	BACT Limits determined in PSD-LA-677(M-1)
FUG 5 – Road Emissions (FUG005)	PM_{10}: 4.58 lb/hr, 18.28 TPY; Use of water spray to control dust emissions.
FUG 6 – New Coal Conveyors (FUG010)	PM_{10}: 20.98 lb/hr, 0.74 TPY; Equip conveyors with covers to reduce wind erosion; Suppress dust through the use of dry fogging or equivalent dust suppression at conveyor transfer points.
FUG 7 – Limestone Conveyors (FUG011)	PM_{10}: 52.43 lb/hr, 0.37 TPY; Use a partial enclosure; Suppress dust through the use of dry fogging or equivalent dust suppression at conveyor transfer points.
FUG 8 – Limestone Pile Fugitive Emissions (FUG012)	PM_{10}: 56.3 lb/hr, 0.93 TPY; Use a wet suppression system to limit fugitive emissions.
FUG 9 – Limestone Emergency Unloading Fugitive Emissions (FUG013)	PM_{10}: 50.90 lb/hr, 0.37 TPY
FUG 10 – Gypsum Pile & Loading Fugitive Emissions (FUG008)	PM_{10}: 40.80 lb/hr, 0.90 TPY; Use best management practices to control fugitive emissions.
FUG 11 – Gypsum Conveyors (FUG009)	PM_{10}: 0.07 lb/hr, 0.03 TPY; Cover conveyors to reduce wind erosion.

ID / Description	BACT Limits determined in PSD-LA-677
02-01 – Transfer Tower T-20 (EQT008)	PM10: < 0.01 lbs/hr; < 0.01 TPY; Total enclosure and vent to a baghouse.
04-01 – Transfer Tower T-22/ Crusher (EQT010)	PM10: 0.05 lbs/hr; 0.08 TPY; Total enclosure and vent to a baghouse.
06-01 – Transfer Tower T-23 (EQT060)	PM10: < 0.01 lbs/hr; < 0.01 TPY; Use of a fabric filter on the baghouse to control emissions.
16-01 – Cooling Tower 3 (EQT022)	PM10: 7.16 lb/hr; 20.90 TPY; Mechanical drift eliminator designed to achieve a drift rate of 0.002%.
S 3,4 – Lime Silo Operations (EQT035)	PM10: < 0.01 lb/hr, < 0.01 TPY; Use of a baghouse at 99% control efficiency.
T4 – Transfer Tower T4/Crusher (EQT040)	PM10: 0.50 lb/hr, 2.19 TPY; Use of partial enclosure and chemical spray.
T8 – Transfer Tower T8 (EQT041)	PM10: 0.01 lb/hr, 0.01 TPY; Use partial enclosure and a baghouse.
FUG 3 – Fly Ash Pond (FUG004)	PM10: 475.30 lb/hr, 0.581 TPY; Use of wetting agent on ash material prior to unloading.

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Streamlined Equipment Leak Monitoring Program

Unit or Plant Site	Program Being Streamlined	Stream Applicability	Overall Most Stringent Program
	Not Applicable		

MACT Requirements

This permit was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations and Prevention of Significant Deterioration (PSD). New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) apply to this facility.

This facility is a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51.
Per LAC 33:III.5105.B.2, the electric utility steam generating units: EQT021, 15-01 – Boiler No. 4(2B4); EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; EQT029, 2B3 – Boiler No. 3, are currently exempt from the requirements of Subchapter A of LAC 33:III.Chapter 51. However, ammonia emissions from the Selective Catalyst Reduction (SCR) system on Boiler No. 4(2B4) are regulated under LAC 33:III.Chapter 51.

Big Cajun II Unit 4 conducted a modeling analysis of Toxic Air Pollutants (TAPs) with both chronic effects, (e.g., carcinogenic, such as benzene) and acute effects (such as ammonia). The modeled results were compared to 7.5 percent of the standard in LAC 33:III.Chapter 51.Table 2 at all off property receptors. For all TAPs, it was determined that none of the off-site impacts exceeded 7.5 percent of the standard, and no further modeling was required. Also, the selection of control technology based on the BACT analysis included consideration of control of toxic emissions.

The Big Cajun II Power Plant is subject to the following NSPS and NESHAP regulations:

- NSPS – Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971
- NSPS – Subpart Da – Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978
- NSPS – Subpart Y – Standards of Performance for Coal Preparation Plants
- NSPS – Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants
- NESHAP – Subpart M - National Emission Standard for Asbestos

Case-by-Case MACT

The new boiler, EQT021, 15-01 – Boiler No. 4(2B4), is subject to a case-by-case determination of Maximum Achievable Control Technology (MACT) in accordance with Section 112(g) of the Clean Air Act. The Hazardous Air Pollutants (HAPs) emitted from this source were divided into four groups: mercury, acid gases (including hydrochloric acid and hydrofluoric acid), organic HAPs, and metallic HAPs.

A review was conducted that compared the proposed pulverized coal boiler, EQT021, to other similar projects that have been permitted across the Unites States of America as well

as other technical data. The information from the comparison was used to establish a MACT Floor, which is the emission control achieved in practice by the best controlled similar source. Upon determination of the MACT Floor, a 'beyond the floor' analysis was performed to determine the possibility of emissions control that would be more stringent than the MACT Floor. Emissions controls that are more stringent than the MACT Floor and that are consistent with the definition of MACT have been incorporated into this MACT determination.

MACT for emissions of mercury has been determined to be the use of a combination of Selective Catalytic Reduction (SCR), sorbent injection, fabric filters, and wet flue gas desulfurization (FGD). MACT for emissions of non-mercury metallic HAP metals has been determined to be the control of filterable particulate matter, as a surrogate, through the use of the fabric filters. MACT for emissions of acid gases (including hydrochloric acid and hydrofluoric acid) has been determined to be the use of a wet flue gas desulfurization. MACT for emissions of organic HAPs is determined to be the control of carbon monoxide, as a surrogate, through the use of good combustion practices.

The emissions limitations imposed by the above referenced MACT determination are summarized below:

Pollutant	Limitation	Averaging Period	Applies when firing ...
Mercury	0.015 lb/GWh	12 month rolling avg.	Subbituminous coal
	0.0075 lb/GWh	12 month rolling avg.	Bituminous coal
Metallic HAPs *	0.012 lb PM/MM BTU	Avg. of three 1 hr. tests	All fuels
Hydrochloric Acid	0.0029 lb/MM BTU	Avg. of three 1 hr. tests	Subbituminous coal
	0.0024 lb/MM BTU	Avg. of three 1 hr. tests	Bituminous coal
Hydrofluoric acid	0.00044 lb/MM BTU	Avg. of three 1 hr. tests	Subbituminous coal
	0.0003 lb/MM BTU	Avg. of three 1 hr. tests	Bituminous coal
Organic HAPs**	0.135 lb CO/MM BTU	30 day rolling avg.	All fuels

* Control of particulate matter (PM) is approved as a surrogate for control of metallic HAPs. Metallic HAPs are a subset of total PM. Any technology that controls PM will also control metallic HAPs. A reduction in PM emissions will translate to a reduction in metallic HAP emissions.

** Control of carbon monoxide (CO) is approved as a surrogate for control of organic HAPs. This approval was made because both CO and organic HAPs are products of incomplete combustion. A reduction in CO will indicate more complete combustion, which will translate to a reduction in organic HAP emissions.

The monitoring requirements imposed by the above referenced MACT determination are summarized below:

Pollutant	Monitoring conducted using ...
Mercury	Mercury Continuous Emissions Monitoring System (CEMS)
Metallic HAPs (PM as surrogate)	Monitoring Requirements of 40 CFR 64, Stack Tests every 5 years
Hydrochloric acid	Annual Stack Test
Hydrofluoric acid	Annual Stack Test
Organic HAPs (CO as surrogate)	Carbon Monoxide Continuous Emissions Monitoring System (CEMS)

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All requirements imposed in accordance with Section 112(g) of the Clean Air Act can be found in the Specific Requirements section of this permit under the group entitled CRG0001 – MACT Requirements for EQT021, 15-01 – Boiler No. 4(2B4).

This case-by-case MACT determination could be revised in the future under 40 CFR 63.44(b) if the administrator promulgates an emission standard under section 112(d) or section 112(h) of the Clean Air Act which is more stringent than the case-by-case MACT determination set out in this permit for EQT021. If the level of control proposed in any promulgated standard is less stringent than the case-by-case MACT determination set out in this permit for EQT021, then the emission limitations of the case-by-case MACT remain applicable.

The proposed permit constitutes a Notice of MACT Approval in accordance with 40 CFR 63.43(g).

CAIR

The U.S. Court of Appeals for the D.C. Circuit on December 23, 2008 decided to remand to EPA without vacatur the Clean Air Interstate Rule (CAIR). CAIR remains in effect until it is replaced by a rule that remedies the flaws identified by the court in its July 11, 2008 opinion.

Air Quality Analysis

Prevention of Significant Deterioration (PSD) regulations requires an analysis of existing air quality for those pollutants emitted in significant amounts from a proposed facility.

Industrial Source Complex, Short-Term, Version 3 (ISCST3) modeling indicates maximum ground level concentrations of NO_x and CO are below their respective preconstruction monitoring exemption levels and ambient significance levels. No preconstruction monitoring or increment analysis or refined modeling is required for NO_x and CO.

ISCST3 modeling of PM_{10} emissions associated with the modification show a maximum predicted 24-hour PM_{10} impact of 22.45 $\mu g/m^3$, above the significance level of 5 $\mu g/m^3$. The maximum predicted annual PM_{10} impact is 5.79 $\mu g/m^3$, above the significance level of 1 $\mu g/m^3$. Because the 24-hour maximum impact for PM_{10} is above the deminimis level of 10 $\mu g/m^3$, preconstruction monitoring is required. However, the ambient air monitoring station in Port Allen, Louisiana, provides sufficient data and alleviates the need to conduct preconstruction monitoring.

The National Ambient Air Quality Standard (NAAQS) modeling analysis examined four scenarios for PM_{10} analysis: Normal Operations, Coal Emergency Operations, Limestone Emergency Operations, and Coal + Limestone Operations. Both the maximum 24-hour and Annual total PM_{10} impacts including background occurred during the Normal Operations scenario. The maximum 24-hour total PM_{10} impact including background is predicted to be 95.48 $\mu g/m^3$, 63.7% of the NAAQS of 150 $\mu g/m^3$ for the 24-hour PM_{10} averaging period. The maximum Annual total PM_{10} impact including background is predicted to be 41.6 $\mu g/m^3$, 83.2% of the NAAQS of 50 $\mu g/m^3$ for the Annual PM_{10} averaging period.

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Screen dispersion modeling of SO_2 emissions associated with the modification show a maximum predicted 3-hour impact of 105.4 $\mu g/m^3$, above the significance level of 25 $\mu g/m^3$. The maximum predicted 24-hour SO_2 impact is 28.14 $\mu g/m^3$, which is above the significance level of 5 $\mu g/m^3$. The maximum predicted annual SO_2 impact is 0.31 $\mu g/m^3$, below the significance level of 1 $\mu g/m^3$. Because the 24-hour maximum impact for SO_2 is above the deminimis level of 13 $\mu g/m^3$, preconstruction monitoring is required. However, the ambient air monitoring station in Port Allen, Louisiana, provides sufficient data and alleviates the need to conduct preconstruction monitoring.

The maximum 3-hour total SO_2 impact including background is predicted to be 1,163.9 $\mu g/m^3$, 89.5% of the NAAQS of 1,300 $\mu g/m^3$ for the 3-hour SO_2 averaging period. The maximum 24-hour total SO_2 impact including background is predicted to be 324.9 $\mu g/m^3$, 89% of the NAAQS of 365 $\mu g/m^3$ for the 24-hour SO_2 averaging period.

Refined modeling demonstrates compliance with the PM_{10} and SO_2 NAAQS, therefore Big Cajun II Unit 4's proposal will not cause or contribute to a violation of the applicable NAAQS standard.

Dispersion modeling indicates the impacts of PM_{10} and SO_2 are below above the National Ambient Air Quality Standards (NAAQS) and within the allowable increment consumption limits of these pollutants.

The ISCST3 modeling of NO_X emissions associated with the modification show a maximum predicted annual NO_X impact of 0.16 $\mu g/m^3$, below the significance level of 1 $\mu g/m^3$. Because the annual maximum impact for NO_X is below the deminimis level of 14 $\mu g/m^3$, preconstruction monitoring, further refined NAAQS modeling, and increment consumption analyses were not required.

ISCST3 modeling of CO emissions associated with the modification show a maximum predicted 1-hour CO impact of 266.5 $\mu g/m^3$, below the significance level of 2,000 $\mu g/m^3$. The maximum predicted 8-hour CO impact is 84.57 $\mu g/m^3$, below the significance level of 500 $\mu g/m^3$. Because the 8-hour maximum impact for CO is below the deminimis level of 575 $\mu g/m^3$, preconstruction monitoring, further refined NAAQS modeling, and increment consumption analyses were not required.

VOC increases from the proposed modification are less than 100 tpy; therefore, preconstruction monitoring and an ambient air quality analysis are not required.

Big Cajun II Unit 4 conducted a modeling analysis of Toxic Air Pollutants (TAPs) with both chronic effects, (e.g., carcinogenic, such as benzene) and acute effects (such as ammonia). The modeled results were compared to 7.5 percent of the standard in LAC 33:III.Chapter 51.Table 2 at all off property receptors. For all TAPs, it was determined that none of the off-site impacts exceeded 7.5 percent of the standard, and no further modeling was required. Also, the selection of control technology based on the BACT analysis included consideration of control of toxic emissions.

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Pollutant	Time Period	Calculated Maximum Ground Level Concentration		Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})	
PM_{10}	24-hour	22.45	$\mu g/m^3$	(150	$\mu g/m^3$)
	Annual	5.79	$\mu g/m^3$	(50	$\mu g/m^3$)
SO_2	3-hour	105.4	$\mu g/m^3$	(1,300	$\mu g/m^3$)
	24-hour	28.14	$\mu g/m^3$	(365	$\mu g/m^3$)
	Annual	0.31	$\mu g/m^3$	(80	$\mu g/m^3$)
NO_X	Annual	0.16	$\mu g/m^3$	(100	$\mu g/m^3$)
CO	1-hour	266.5	$\mu g/m^3$	(10,000	$\mu g/m^3$)
	8-hour	84.57	$\mu g/m^3$	(40,000	$\mu g/m^3$)
Acetaldehyde	Annual	0.000414	$\mu g/m^3$	45.50	$\mu g/m^3$
Acrolein	8-hour	0.00734	$\mu g/m^3$	5.40	$\mu g/m^3$
Ammonia	8-hour	0.57	$\mu g/m^3$	640.00	$\mu g/m^3$
Antimony	8-hour	0.000276	$\mu g/m^3$	11.90	$\mu g/m^3$
Arsenic	Annual	0.00024	$\mu g/m^3$	0.02	$\mu g/m^3$
Barium	8-hour	0.0000182	$\mu g/m^3$	11.90	$\mu g/m^3$
Benzene	Annual	0.000944	$\mu g/m^3$	12.00	$\mu g/m^3$
Beryllium	Annual	0.0000107	$\mu g/m^3$	0.04	$\mu g/m^3$
Biphenyl	8-hour	0.0000431	$\mu g/m^3$	23.80	$\mu g/m^3$
Cadmium	Annual	0.0000165	$\mu g/m^3$	0.06	$\mu g/m^3$
Carbon Disulfide	8-hour	0.00329	$\mu g/m^3$	71.40	$\mu g/m^3$
Chlorobenzene	8-hour	0.000557	$\mu g/m^3$	1,100.00	$\mu g/m^3$
Chloroethane	8-hour	0.015	$\mu g/m^3$	62,900.00	$\mu g/m^3$
Chloroform	Annual	0.0000429	$\mu g/m^3$	4.30	$\mu g/m^3$
Chromium VI	Annual	0.0000978	$\mu g/m^3$	0.01	$\mu g/m^3$
Copper	8-hour	0.0000312	$\mu g/m^3$	23.80	$\mu g/m^3$
Cumene	8-hour	0.000134	$\mu g/m^3$	5,860.00	$\mu g/m^3$
Cyanide	8-hour	0.063	$\mu g/m^3$	260.00	$\mu g/m^3$
1,2-Dibromoethane	Annual	0.0000009	$\mu g/m^3$	0.45	$\mu g/m^3$
1,2-Dichloroethane	Annual	0.0000291	$\mu g/m^3$	3.85	$\mu g/m^3$
Dichloromethane	Annual	0.000211	$\mu g/m^3$	212.77	$\mu g/m^3$
2,4-Dinitrotoumene	8-hour	0.0000071	$\mu g/m^3$	4.76	$\mu g/m^3$
Ethyl Benzene	8-hour	0.00238	$\mu g/m^3$	10,300.00	$\mu g/m^3$
Formaldehyde	Annual	0.000258	$\mu g/m^3$	7.69	$\mu g/m^3$
Hydrogen Chloride	8-hour	0.0000055	$\mu g/m^3$	180.00	$\mu g/m^3$
Hydrogen Fluoride	8-hour	0.0000351	$\mu g/m^3$	61.90	$\mu g/m^3$
Manganese	8-hour	0.000174	$\mu g/m^3$	4.76	$\mu g/m^3$
Mercury	8-hour	0.00175	$\mu g/m^3$	1.19	$\mu g/m^3$
Methyl Ethyl Ketone	8-hour	0.00988	$\mu g/m^3$	14,000.00	$\mu g/m^3$
n-Hexane	8-hour	0.15 *	$\mu g/m^3$	4190.00	$\mu g/m^3$
Nickel	Annual	0.00066	$\mu g/m^3$	0.21	$\mu g/m^3$
Phenol	8-hour	0.000405	$\mu g/m^3$	452.00	$\mu g/m^3$
Polynuclear Aromatic Hydrocarbons (PAHs)	Annual	0.0000351	$\mu g/m^3$	0.06	$\mu g/m^3$
Propionaldehyde	8-hour	0.00962	$\mu g/m^3$	4,290.00	$\mu g/m^3$
Selenium	8-hour	0.0000145	$\mu g/m^3$	4.76	$\mu g/m^3$
Styrene	8-hour	0.000633	$\mu g/m^3$	5,070.00	$\mu g/m^3$
Sulfuric Acid	8-hour	1.71	$\mu g/m^3$	23.80	$\mu g/m^3$
1,1,2,2-Tetrachloroethane	Annual	0.0000312	$\mu g/m^3$	1.70	$\mu g/m^3$
Toluene	8-hour	0.00608	$\mu g/m^3$	8,900.00	$\mu g/m^3$
1,1,1-Trichloroethane	8-hour	0.000506	$\mu g/m^3$	45,200.00	$\mu g/m^3$

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Pollutant	Time Period	Calculated Maximum Ground Level Concentration		Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})	
Vinyl Acetate	8-hour	0.000211	$\mu g/m^3$	830.00	$\mu g/m^3$
Xylene	8-hour	0.0000254	$\mu g/m^3$	10,300.00	$\mu g/m^3$
Zinc	8-hour	23.37 **	$\mu g/m^3$	119.00	$\mu g/m^3$

* Screening result due to modified emissions post-modeling.

** This number is the result of a screening analysis performed by LDEQ due to increases in the pollutant emissions subsequent to the facility's modeling submittal. This number does not represent the result of a refined screening analysis. This number is extremely conservative because it does not take into account site specific information for the facility or the facility fenceline.

All impacts on air quality from the emissions of the proposed use of high sulfur coal at the facility will be below the National Ambient Air Quality Standards (NAAQS) and the Louisiana Ambient Air Standards (AAS) beyond the industrial property.

Following a meeting dated February, 13, 2007, the U.S. Fish and Wildlife stated that Big Cajun II needed to perform a Class I Air Quality Related Values (AQRVs) analysis using the CALPUFF model. Although Big Cajun II is over 260 kilometers (km) away from the Breton Wildlife Refuge, the size of the emission increase merited an impact analysis on the Class I area. CALPUFF is the appropriate model for sources at distances greater than 50 km.

The increase due to the modification required a more in-depth analysis of the Class I Air Quality Related Values (AQRVs) for the Breton Wilderness Area. Louisiana Generating, LLC, (LaGen) submitted a revised Class I Impact Analysis for the Big Cajun I Generating Station and the Big Cajun II Unit 4 Project to the LDEQ, EPA Region 6, and the U.S. Fish and Wildlife Services (the Federal Land Manager (FLM) for the Wilderness Area) on January 16, 2008.

The Impact Analysis used the dispersion model CALPUFF to evaluate the Significant Impact Levels (SILs) on PM_{10}, SO_2, and NO_X, PSD increment consumption, visibility impacts, and the sulfate and nitrogen deposition.

In all scenarios, there were insignificant impacts on the air quality at the Breton Wilderness Area. PM_{10} and NO_X did not exceed their respective SIL in terms of ambient concentration. While the short-term SO_2 concentrations did exceed their respective SILs, a cumulative impact analysis indicated that the total impacts in the Class I area were less than the allowable PSD Class I increment. The deposition flux was estimated to be below significance threshold levels (i.e., DAT) for both nitrogen and sulfur. The visibility impairment, measured in terms of light extinction coefficient, was less than five percent (5%) utilizing the VISTAS BART guidelines. Thus, no adverse impact was predicted on soil, vegetation, wildlife or visibility in the Breton NWR from these projects.

The Federal Land Manager (FLM) submitted an approval of the analysis on April 7, 2008, which stated that the project will not have an adverse visibility impact or impacts on any air quality related values at the Breton Wilderness Area.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

A permit shield per 40 CFR 60.6(f) and LAC 33:III.507.I is not included in the proposed permits.

VI. PERIODIC MONITORING

The permittee shall weekly monitor the baghouse for visible emissions on EQT008, 02-01 – Transfer Tower T-20. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT010, 04-01 – Transfer Tower T-22/ Crusher. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

A federally enforceable condition requires the permittee to limit the annual throughput of EQT010, 04-01 – Transfer Tower T-22/ Crusher, to 3,595,000 tons per year. The combined total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total annual throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

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A federally enforceable condition requires the permittee to limit the annual throughput of EQT011, 05-01 – Emergency Unloading, to 375,000 tons per year. The throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. An annual throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

Permittee is required to monitor Opacity by a Continuous Opacity Monitor (COM) in percent opacity for EQT021, 15-01 – Boiler No. 4(2B4), according to 40 CFR 60.49Da(a), NSPS – Subpart Da, and also 40 CFR 75.10(a)(4). As an alternative, permittee may install, certify, maintain, and operate a Continuous Emission Monitoring System (CEMS) to measure particulate emissions according to 40 CFR 60.48Da(p), NSPS – Subpart Da.

Permittee is required to continuously monitor the Opacity of the baghouse on EQT021, 15-01 – Boiler No. 4(2B4), according to 40 CFR 64.6(c)(1), as part of the Continuous Assurance Monitoring (CAM) plan for PM_{10}.

Permittee is required to monitor Sulfur Dioxide (SO_2) using a Continuous Monitoring System (CMS), for EQT021, 15-01 – Boiler No. 4(2B4), according to 40 CFR 60.49Da(b), NSPS – Subpart Da.

Permittee is required to monitor SO_2 using a Continuous Emission Monitoring System (CEMS) and a flow monitoring system the SO_2 concentration (in ppm), volumetric gas flow (in scfh), and SO_2 mass emissions (in lb/hr) for EQT021, 15-01 – Boiler No. 4(2B4), according to 40 CFR 75.10(a)(1).

Permittee is required to monitor Nitrogen Oxides (NO_X) through a NO_X-diluent Continuous Emission Monitor (CEM), which includes a NO_X concentration monitor and an O_2 or CO_2 diluent gas monitor, which measures and records the NO_X concentration (in ppm), O_2 or CO_2 concentration (in percent O_2 or CO_2), and the NO_X emission rate (in lb/MM BTU) for EQT021, 15-01 – Boiler No. 4(2B4), according to 40 CFR 75.10(a)(2).

Permittee is required to monitor Carbon Monoxide (CO) using a Continuous Emission Monitoring System (CEMS) according to Performance Specification 4 of 40 CFR 60 Appendix B for EQT021, 15-01 - Boiler No. 4(2B4), according to LAC 33:III.509.

Permittee is required to continuously monitor the liquid flow rate of the wet scrubber on EQT021, 15-01 – Boiler No. 4(2B4), according to 40 CFR 64.6(c)(1), as part of the CAM plan for H_2SO_4.

Permittee is required to continuously monitor the liquid pH level of the wet scrubber on EQT021, 15-01 – Boiler No. 4(2B4), according to 40 CFR 64.6(c)(1), as part of the CAM plan for H_2SO_4.

Permittee is required to monitor the Mercury (Hg) concentrations in the exhaust gases by a Continuous Emission Monitor (CEM) for EQT021, 15-01 – Boiler No. 4(2B4), as part of the case-by-case MACT determination per Section 112(g) of the Clean Air Act.

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Permittee is required to monitor the PM emissions as a surrogate for low-and semi-volatile metallic Hazardous Air Pollutants (HAPs) by following the CAM procedures for the baghouse under 40 CFR 64 in this permit for EQT021, 15-01 – Boiler No. 4(2B4), as part of the case-by-case MACT determination per Section 112(g) of the Clean Air Act.

Permittee is required to monitor the CO emissions as a surrogate for Organic HAPs by a Continuous Emission Monitor (CEM) for EQT021, 15-01 – Boiler No. 4(2B4), as part of the case-by-case MACT determination per Section 112(g) of the Clean Air Act.

Permittee is required to monitor Hydrofluoric Acid and Hydrochloric Acid emissions by conducting annual stack tests for EQT021, 15-01 – Boiler No. 4(2B4), as part of the case-by-case MACT determination per Section 112(g) of the Clean Air Act.

Permittee is required to monitor the gas and/or liquid fuel usage with a totalizing fuel meter, according to LAC 33:III.2201.H.1.b.i, for the coal fired boilers: EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; and EQT029, 2B3 – Boiler No. 3.

Permittee is required to monitor Oxygen (O_2) or Carbon Dioxide (CO_2) with a diluent monitor that meets all of the requirements of Performance Specification 3 of 40 CFR 60, Appendix B, according to LAC 33:III.2201.H.1.b.ii, and 40 CFR 60.45(a), NSPS – Subpart D, for the coal fired boilers: EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; and EQT029, 2B3 – Boiler No. 3.

Permittee is required to monitor for Sulfur Dioxide (SO_2) either by a Continuous Emission Monitor (CEM) or by fuel sampling and analysis if the generator does not use a flue gas desulfurization device, according to 40 CFR 60.45(b)(2), NSPS – Subpart D.

Permittee is required to monitor SO_2 using a Continuous Emission Monitoring System (CEMS) and a flow monitoring system the SO_2 concentration (in ppm), volumetric gas flow (in scfh), and SO_2 mass emissions (in lb/hr) for the coal fired boilers: EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; and EQT029, 2B3 – Boiler No. 3, according to 40 CFR 75.10(a)(1).

Permittee is required to monitor Nitrogen Oxides (NO_X) with a Continuous Emission Monitor Systems (CEMS) that meets all of the requirements of 40 CFR Part 60.13 and Performance Specification 2 of 40 CFR 60, Appendix B, according to LAC 33:III.2201.H.1.b.iii, and 40 CFR 60.45(b)(3), NSPS – Subpart D, for the coal fired boilers: EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; and EQT029, 2B3 – Boiler No. 3.

Permittee is required to monitor Nitrogen Oxides (NO_X) through a NO_X-diluent Continuous Emission Monitor Systems (CEMS), which includes a NO_X concentration monitor and an O_2 or CO_2 diluent gas monitor, which measures and records the NO_X concentration (in ppm), O_2 or CO_2 concentration (in percent O_2 or CO_2), and the NO_X emission rate (in lb/MM BTU) for the coal fired boilers: EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; and EQT029, 2B3 – Boiler No. 3, according to 40 CFR 75.10(a)(2).

Permittee is required to monitor Carbon Monoxide (CO) with a Continuous Emission Monitoring Systems (CEMS) that meets all of the requirements of Performance Specification 4 of 40 CFR 60, Appendix B, according to LAC 33:III.507.H.1, for the coal

fired boilers: EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; and EQT029, 2B3 – Boiler No. 3.

Permittee is required to monitor Opacity by a Continuous Opacity Monitor (COM) in percent opacity for the coal fired boilers: EQT027, 2B1 – Boiler No. 1; EQT028, 2B2 – Boiler No. 2; and EQT029, 2B3 – Boiler No. 3, according to 40 CFR 75.10(a)(4).

Louisiana Generating, LLC, and Big Cajun II Unit 4, LLC, shall comply with the monitoring requirements as provided in 40 CFR Part 75, for EQT027, 2B1 – Boiler No. 1, EQT028, 2B2 – Boiler No. 2, EQT029, 2B3 – Boiler No. 3, and EQT021, 15-01 – Boiler No. 4(2B4), according to Permit No. 2260-00012-IV3. The emissions measurements recorded and reported in accordance with 40 CFR Part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for SO_2 and NO_X under the Acid Rain Program. The requirements of 40 CFR Part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

The permittee shall weekly monitor the baghouse for visible emissions on EQT023, 17-01 – Unit 4 Ash Silo. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT030, BR1, 2 – Unit 1 & Unit 2 Bunker Room. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT033, EBR3 – Unit 3 East Bunker Room. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT034, PC1 - Barge Unloading. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. Installation of the baghouse is conditional if the Unit 4 Project becomes operational. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT035, S 3,4 – Lime Silo Operation. The filter elements shall be inspected upon each occurrence of process unit shut dow n or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records

of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT041, T8 – Transfer Tower T8. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT049, WBR3 – Unit 3 West Bunker Room. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

A federally enforceable condition requires the permittee to limit the total operating hours of EQT050, EG-1 – Emergency Generator #1, to 552 hours per year. The total operating time shall be recorded each month, as well as the operating time for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total operating time above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total operating time for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

A federally enforceable condition requires the permittee to limit the total operating hours of EQT051, EG-2 – Emergency Generator #2, to 552 hours per year. The total operating time shall be recorded each month, as well as the operating time for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total operating time above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total operating time for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

A federally enforceable condition requires the permittee to limit the total operating hours of EQT052, EF-1 – Emergency Firewater Pump #1, to 552 hours per year. The total operating time shall be recorded each month, as well as the operating time for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total operating time above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total operating time for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

A federally enforceable condition requires the permittee to limit the total operating hours of EQT053, EF-2 – Emergency Firewater Pump #2, to 552 hours per year. The total

operating time shall be recorded each month, as well as the operating time for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total operating time above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total operating time for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

The permittee shall weekly monitor the baghouse for visible emissions on EQT060, 06-01 – Transfer Tower T-23. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

A federally enforceable condition requires the permittee to limit the total annual throughput of EQT060, 06-01 – Transfer Tower T-23, to 3,595,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total annual throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total annual throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

A federally enforceable condition requires the permittee to limit the total operating hours of EQT061, EG-3 – Emergency Generator #3, to 552 hours per year. The total operating time shall be recorded each month, as well as the operating time for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total operating time above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total operating time for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

A federally enforceable condition requires the permittee to limit the total annual throughput of EQT062, 01-06 – Stamler Reclaim System, to 2,400,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

A federally enforceable condition requires the permittee to limit the total annual throughput of EQT064, 03-06 – Luffing/Slewing Stacker, to 3,595,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last

twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

A federally enforceable condition requires the permittee to limit the annual throughput of EQT066, 05-06 – Limestone Railcar Unloading, to 500,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT066, 05-06 – Limestone Railcar Unloading, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT066, 05-06 – Limestone Railcar Unloading, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

A federally enforceable condition requires the permittee to limit the annual thoughput of EQT067, 06-06 – Emergency Limestone Truck Unloading, to 60,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT067, 06-06 – Emergency Limestone Truck Unloading, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT067, 06-06 – Emergency Limestone Truck Unloading, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

A federally enforceable condition requires the permittee to limit the total annual throughput of EQT068, 07-06 – Emergency Limestone Reclaim, to 54,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total throughput above the maximum listed in this specific condition for any twelve consecutive month period

shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT068, 07-06 – Emergency Limestone Reclaim, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT068, 07-06 – Emergency Limestone Reclaim, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT069, 08-06 – Limestone Transfer Tower, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT069, 08-06 – Limestone Transfer Tower, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT070, 09-06 – Limestone Stackout, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT070, 09-06 – Limestone Stackout, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT071, 10-06 – Limestone Reclaim, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT071, 10-06 – Limestone Reclaim, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

The permittee shall weekly monitor the baghouse for visible emissions on EQT072, 11-06 – Limestone Day Silos. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT072, 11-06 – Limestone Day Silos, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT072, 11-06 – Limestone Day Silos, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

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Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT073, 12-06 – Gypsum Dewatering Building, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT073, 12-06 – Gypsum Dewatering Building, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT074, 13-06 – Gypsum Transfer Tower, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT074, 13-06 – Gypsum Transfer Tower, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT075, 14-06 – Gypsum Radial Stacker Feed, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT075, 14-06 – Gypsum Radial Stacker Feed, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT076, 15-06 – Gypsum Transfer to Storage Piles, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT076, 15-06 – Gypsum Transfer to Storage Piles, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

A federally enforceable condition requires the permittee to limit the total annual throughput of EQT077, 16-06 – Gypsum Truck Loading, to 480,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for EQT077, 16-06 – Gypsum Truck Loading, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for EQT077, 16-06 – Gypsum Truck Loading, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

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The permittee shall weekly monitor the baghouse for visible emissions on EQT078, 17-06 – Activated Carbon Silo Vent. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on EQT079, 18-06 – Sorbent Silo Vent. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

The permittee shall weekly monitor the baghouse for visible emissions on FUG006, S 1,2 – Fly Ash Handling Emissions. The filter elements shall be inspected upon each occurrence of process unit shut down or whenever visible emission checks indicate maintenance may be necessary. Elements shall be changed as necessary. The permittee shall keep records of visible checks and maintenance inspections on site and available for inspection by the Office of Environmental Compliance, Surveillance Division.

A federally enforceable condition requires the permittee to limit the total annual throughput of FUG011, FUG 7 – Limestone Conveyors, to 500,000 tons per year. The total throughput shall be recorded each month, as well as the throughput for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. A total throughput above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the total throughput for the preceding calendar year shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for FUG008, FUG 10 - Gypsum Pile & Loading Fugitive Emissions, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for FUG008, FUG 10 - Gypsum Pile & Loading Fugitive Emissions, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

Permittee shall monitor the Particulate Matter concentration using Method 5 or Method 17, of 40 CFR 60, Appendix A, for FUG009, FUG 11 – Gypsum Conveyors, according to 40 CFR 60.675(b)(1), NSPS – Subpart OOO.

Permittee shall monitor Opacity using Method 9 and the procedures in 40 CFR 60.11, for FUG009, FUG 11 – Gypsum Conveyors, according to 40 CFR 60.675(b)(2), NSPS – Subpart OOO.

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VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

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Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.